FRENCH GOODS.

NEARLY all the foundations are in for the Louis-Philippe Hospital, close to the church of St. Vincent de Paul, in Paris, and 800 workmen are employed there. The inclosing walls include an area of 34,000 *mètres*.—It is proposed to erect a monument to Pius IX. in Paris, and the corporation appear favourable to the project.—A curious disagreement has arisen respecting the restorations at the Hôtel de Ville. The municipal council have refused to allow for the sum of 1,600*l.* expended in sculpture for the principal staircase, and the Minister of the Interior has confirmed their decision, leaving the amount to be defrayed either by the *préfet* or the architects. The *préfet* has stopped the payment of the money due to the architects for their services, with the view, probably, of trying the question with them. We are not aware of the circumstances under which the sculptures were ordered.—At Orleans a subscription has been commenced for the erection of an equestrian statue to Joan of Arc. And in Périgueux (Dordogne) a statue is to be raised in honour of General Daumesnil, surnamed *Le Jambe de Bois*.—On the 3rd of last month the first stone was laid of a Thermal Hospital for the troops, at Amélie-les-Bains (Pyrénées-Orientales), proposed in 1835, decided on in 1841, and only now commenced: it will be finished in 1852, and will contain 500 patients. The *Moniteur des Architectes*, after stating that the plans have been arranged by M. Puiggari, engineer, remarks that it is to be regretted that the Minister of War has not thought proper to appoint a qualified *architect*, to co-operate with the engineer in the production of a building which demands architectural conditions more elevated than a barracks or a magazine. We have already expressed the same opinion so strongly in a nearly similar case, that it is unnecessary for us to say, we fully agree with our very respectable contemporary on the other side of the water. In respect of the proposed baths in Bristol, mentioned in our present number, we have thought it necessary to repeat the remark.

CONSTRUCTION OF CHEAP SEWERS.

CHESTER AND MANCHESTER.

SIR,—That cheap sewage is a subject of paramount importance to the public, no person for a moment will doubt; and unless science is called in to aid the efforts now being made for the sanatory improvement of towns, we shall be doomed to proceed upon the same imperfect system that has been hitherto pursued, and the public will be heavily taxed for ignorance and incompetence.

Unless a cheaper system of sewage is adopted than has hitherto prevailed, many of our towns must necessarily be prevented from having the important advantages of good drainage, on the grounds of the enormous expenditure that will be required, and the heavy burthen inhabitants of many towns are now labouring under.

It has been asserted, that cheap sewage originated in Manchester, but this I deny; and it may not be uninteresting to some of your readers to know the prices actually paid in Manchester for sewers of different capacities.

Dimensions		
42 in. × 24 in.,	17*s.* 3*d.*	per lineal yard.
36 in. × 24 in.,	15*s.* 4*d.*	,, ,,
33 in. × 22 in.,	13*s.*	,, ,,
30 in. × 20 in.,	11*s.*	,, ,,
24 in. × 18 in.,	13*s.* 4*d.*	,, ,,
20 in. × 15 in.,	12*s.* 6*d.*	,, ,,
15 in. × 12 in.,	8*s.* 3*d.*	,, ,,

Maximum depth, 10 feet.

These sewers we are enabled to construct in Chester as follows:—

Dimensions		
42 in. × 32 in.,	11*s.* per lin. yd.	; ordinary earth.
42 in. × 32 in.,	15*s.* 2*d.* ,,	rock.
36 in. × 28 in.,	9*s.* 6*d.* ,,	ordinary earth.
33 in. × 25 in.,	8*s.* 6*d.* ,,	,,
30 in. × 22 in.,	7*s.* 9*d.* ,,	,,
24 in. × 18 in.,	6*s.* 6*d.* ,,	,,
20 in. × 15 in.,	5*s.* 6*d.* ,,	,,
15 in. × 12 in.,	4*s.* 9*d.* ,,	,,

Maximum depth, 12 feet.

This difference arises chiefly from the exercise of economy in the use of material and labour, as the prices of these in the respective towns do not vary 15 per cent. In my former communication, I stated the cost price of the tubular sewer, 20 inches by 15, to be 6*s.* per lineal yard, *exclusive* of excavation, but I find we can execute it in 4½-inch brickwork much cheaper, our sewers, as you will perceive, costing us only 5*s.* 6*d.*, including excavation to the average depth of eight feet. The general shape of the sewers in Manchester is either a semi-circular or egg-shaped invert, covered with flags, as if the properties of the arch were not well understood, or could be rendered available. In Liverpool, prices are still higher, and modern Birkenhead partakes a *little* of their extravagance. A system of flushing is also to be economically applied to the sewage of Chester.

It has been broadly stated that sewers composed of 4½-inch brickwork are inadequate for the purpose intended, but when we calculate upon the strength of brick as applied in sewers, more particularly if radiated, the objection is utterly worthless, and arises from a want of knowledge of the properties of materials, and the power they possess to resist compression.

We have a sewer in this city 3 feet 6 inches by 3 feet, of 4½-inch brickwork, that has been built fifteen years, and I had it opened the other day, and found it in as perfect a state as when first constructed, although composed of bricks of the ordinary shape, viz., rectangular, and I have not the slightest hesitation in saying that sewers may be constructed with the greatest safety, of this capacity and strength of material.

As to the durability of bricks or tiles for the purposes of drainage, we have the strongest proof, Roman Tiles having repeatedly been dug up, which must have been buried in the bowels of the earth upwards of 1800 years, and in a perfect state of preservation, with the stamp of the LEG. XX. VV. clearly impressed upon them, the thickness of the material being only one inch. The Romans in the midst of their conquests seem to have had time and inclination to study the subject of drainage, and other sanatory regulations, proofs of which they have left at all their principal stations. Britons, with all their boasted intelligence and civilization, lack those qualities so eminently displayed by those enterprising people, or our towns would not exhibit, as they now do, an almost total disregard of drainage and cleanliness.

B. B.

Chester.

MEETING OF MECHANICAL ENGINEERS AT BIRMINGHAM.

A QUARTERLY meeting was held on 22nd ultimo at the Institution-rooms, Temple-buildings, Mr. G. Stephenson, president, in the chair; when a discussion took place on the merits of various mechanical and engineering inventions for the safety of railway trains, described or presented to the meeting. Mr. Stephenson introduced the subject of his proposed safety-break, with plan and description. He alluded to the models or plans of other proposed breaks which he had examined, but did not think any of them would work well. He was obliged to admit, however, that the invention of Mr. Alfred Knight, of Birmingham, son of the borough treasurer, [the ingenuity of the *idea* of which, apart from its mere mechanical adaptation, we have already noted in a recent impression of THE BUILDER] 'was certainly a very ingenious contrivance. But he thought it also was too complicated, as there were, no doubt, too many wheels. The inventor had got a very ingenious mind. But he would observe that an ingenious mind was very dangerous to a mechanic. When they wanted a really useful invention, simplicity was everything.' [No doubt some one may now readily take the hint from the suggestive idea of compelling the very evils to be counteracted—namely, the rotation and progressive motion of the wheels of a train of carriages—to minister to their own counteraction, and arrest *themselves* at any moment midway in their own career; and such a one, so taking the hint, may even endeavour to appropriate *the idea* as his own, by merely realizing it in other or simpler mechanism; but that is probably the only *danger* to be dreaded from the highest and freest exercise of an inventive genius which ought rather to be encouraged than thus repressed; inasmuch as its real value and merit ought not to be confounded with any mere supposed or actual demerit or defect in the mechanical application of its own invaluable and suggestive *idea*,—an application which it really requires but a second-rate and comparatively ordinary mind to improve upon or simplify,—although, as we have said, there certainly is a risk of such an inferior mind ultimately claiming to itself the whole merit, both of idea and of mechanism, by sagaciously confounding the one with the other, while merely suggesting improvement or simplification of the mechanism.]

The discussion on the subject of breaks was ultimately adjourned till next meeting; and a paper, by the president, on the communication between guard and engine-driver, was then read, and various plans (most of them already noticed in THE BUILDER) were discussed, including the speaking-tube for communication between passengers and guards, but which the president considered to be 'almost too absurd to comment upon,' as, even though practicable, 'there would always be some timid persons alarmed at mere trifles, and would be causing stoppages and delays innumerable.' [How could that be? Strange to say, that is an objection which applies to almost any scheme but this one, whatever may be its demerits otherwise, the very design of it being to enable passengers to communicate with guards, *and guards with passengers, without stopping the train at all, unless the guard* should be himself convinced there was sufficient reason.] The president's own recommendation was a modification of the plan already in practice on the Austrian lines, and repeatedly suggested, namely, guards facing the train in both directions, and communicating signals, such as a red flag by day and a red lamp by night, without any provision for oral or other communication with passengers in cases of fire, such as nearly deprived us lately of a bishop, or of sudden illness, death, insanity, or any thing else. The superiority of a powerful whistle over a bell, in the event of either being adopted, was suggested by the president, and the electro-magnetic circuit, in connection with it, was proposed by Mr. Crampton.

A long and elaborate communication was afterwards read by Mr. A. E. Cowper, on an improved suspension-bridge, of a peculiar form, for carrying railways, and which he characterised as 'a piece of boiler-maker's work,' rather than of civil engineering. The object of the paper was to call attention to a mode of preventing such bridges from being 'thrown out of shape, or in any way distorted by the weight of a passing load;' and this he proposed to do chiefly by 'the plan of making a chain of such depth as to include any alteration in the curve of the strain that might take place.' But the limits of the present article prevent us from here doing anything like justice either to the idea or its development. The president and others, in discussing the subject, remarked, that if the invention could practically carry out the intentions of Mr. Cowper, it effected a most important desideratum in railway engineering.

The good to railways from such discussions was then adverted to, and a notice of motion made for eight meetings a year instead of four, when the meeting adjourned till 24th current.

SURREY AND KENT COMMISSION OF SEWERS.—A court was held last week, when the chairman of the Committee of Accounts brought up the statement of the receipts and expenditure for the last half year. The income amounted to 28,666*l.* 16*s.* 11*d.*, which included balance in hand last April, 5,634*l.* 0*s.* 3*d.*; loan, 8,500*l.*; rates, 11,354*l.* 15*s.* 2*d.*; contributions from those requiring drains, &c., 2,231*l.* 19*s.* After paying all expenses, there was a balance in hand of 9,054*l.* 17*s.* 10*d.*, exclusive of 8,000*l.*, put out to interest. Mr. Drew, solicitor to the court, stated that he had received instructions from the Sanatory Commission to send to the commissioners an account of the number of attendances of each commissioner, from the year 1841 to the year 1846. It was stated that some of the commissioners had attended only twice in the course of the year.

TIMBER UNDER HEARTH-STONES.—The recent fire in Drummond-street, Euston-square, when a poor lady was miserably burnt to death, has been ascribed to ignited cinders falling through a crack in the hearth-stone. We have, ourselves, known of more than one fire caused in this way.

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